

Appendix A
Soil Boring Logs

Project: BNSF Skykomish					Operator: Justin Askaret			Location: Skykomish, WA		
Project #: BN050-16423-522					Drill Rig Type: Mini-Sonic			Northing: 259307.2 Easting: 1510204.2		
Client: BNSF					Method: Sonic Drilling			Ground Elevation: 925.47		
Contractor: Holt Drilling/Boart Longyear					Casing ID:			Total Depth: 35'		
Start Date & Time: 9/10/05 1000					Bit Type: Tungsten Carbide			Seal: Hole Plug		
Finish Date & Time: 9/10/05 1200					Boring ID: 4 inch			Logged By: Jim Schneider		
Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM		Elevation (ft-msl)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)						

Depth Interval (ft)	Soil Description	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Notes
0-5	T 2.0' N 2.0' S 0.0'					Brown sandy silt, loose, soft, dry, no odor, no staining.
						Dark brown gravelly (1-10 cm poorly sorted) silt, soft, slightly moist, no odor, no staining.
5-10	T 3.0' N 1.5' S 1.5'	6-7%	> 100,000			Brownish gray gravelly (1-10 cm poorly sorted) coarse grained sand, medium dense, moist, slight odor at 7', no staining.
						Brownish gray gravelly (1-10 cm poorly sorted) coarse grained sand, loose, moist, no odor, no staining.
10-15	T 3.0' N 3.0" S 0.0'	10-13%	10,280			Brown coarse grained sandy gravel (1-10 cm poorly sorted), very loose, wet, strong odor, NAPL and heavy sheen present.
15-20	T 4.0' N 4.0' S 0.0'	15-20%	578			Gray gravelly (1-10 cm poorly sorted) coarse grained sand, loose, wet, strong odor 15-17', slight sheen 15-17', slight odor 17-20', no staining 17-20'.
20-25	T 3.0' N 3.0' S 0.0'	20-25%	1,898	950		Gray gravelly (1-10 cm poorly sorted) coarse grained sand, loose, wet, no odor, no staining.

Groundwater at 10'.
NAPL present in upper 3' of water table

Remarks and Datum Used: The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839	Surveyors BRH, Inc. NAD83/91 and NAVD88	Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
			Date	Time	Depth (ft.)

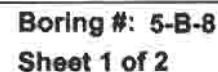


Boring Log

Boring #: 5-B-7
Sheet 2 of 2

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Below Ground Surface (ft.)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					
25-30	T 4.0' N 3.5' S 0.5'	25-28'	342				Light brown gravelly (1-10 cm poorly sorted) coarse grained sand, loose, wet, no odor, no staining.	900 899 898	
		28-30'	38				Reddish brown gravelly (1-10 cm poorly sorted) coarse grained sand, loose, wet, no odor, no staining.	897 896	
30-35	T 1.5' N 1.5' S 0.0'					30	Gray clayey silt, medium stiff, wet, no odor, no staining.	895 894 893	
						35	Gray gravel (1-5 cm poorly sorted) with trace of silt, loose, wet, no odor, no staining.	892 891	

Remarks and Datum Used:		Notes	Groundwater		
Surveyors BRH, Inc. NAD83/91 and NAVD88			Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839		T = Total Rec (ft)			
		N = Native Rec (ft)			
		S = Slough Rec (ft)			



Remarks and Datum Used: Surveyors BRH, Inc. NAD83/91 and NAVD88 The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839		Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
			Date	Time	Depth (ft.)



Boring Log

Boring #: 5-B-8
Sheet 2 of 2

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Below Ground Surface (ft.)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					
25-30	T 3.0' N 3.0' S 0.0'	29-30'	27				Gray gravelly (1-10 cm poorly sorted) coarse grained sand, very loose, wet, strong odor, NAPL present.	899	
							Gray clayey silt, soft, wet, slight odor, staining present on outside of sample from upper interval, not present on inside of sample.	898	
								897	
								896	
								895	
								894	
								893	
								892	
								891	
30-35	T 2.0' N 2.0' S 0.0'						Gray silty gravelly (1-10 cm poorly sorted) coarse grained sand, very loose, wet, slight odor, spots of NAPL present (from upper layer).		

Remarks and Datum Used:	Notes	Groundwater		
		Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839	T = Total Rec (ft)			
	N = Native Rec (ft)			
	S = Slough Rec (ft)			

Remarks and Datum Used: Surveyors BRH, Inc. NAD83/91 and NAVD88

The RETEC Group, Inc.
1011 SW Klickitat Way, Suite 207
Seattle, WA 98134-1162
Phone: (206) 624-9349
Fax: (206) 624-2839

Notes
T = Total Rec (ft)
N = Native Rec (ft)
S = Slough Rec (ft)

Groundwater
Date Time Depth (ft.)

Project: BNSF Skykomish					Operator: Justin Askaret			Location: Skykomish, WA		
Project #: BN050-16423-522					Drill Rig Type: Mini-Sonic			Northing: 1510226.7 Easting: 259242.0		
Client: BNSF					Method: Sonic Drilling			Ground Elevation: 925.52		
Contractor: Holt Drilling/Boart Longyear					Casing ID:			Total Depth: 30'		
Start Date & Time: 9/10/05 840					Bit Type: Tungsten Carbide			Seal: Hole Plug		
Finish Date & Time: 9/10/05 1040					Boring ID: 4 inch			Logged By: Jim Schneider		
Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM		Elevation (ft.-msl)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)						

0-5	T 1.5' N 1.5' S 0.0'					0	Brown sandy silt, loose, soft, dry, no odor, no staining.	925	Groundwater at 10'.
							Dark brown gravelly (1-10 cm poorly sorted), silt, soft, slightly moist, no odor, no staining.	924	
								923	
								922	
								921	
						5	Brownish gray gravelly (1 cm well sorted) sandy silty clay, stiff, slightly moist, faint odor, no staining.	920	
5-10	T 4.0' N 2.0' S 2.0'	7'	2,751					919	
							Gray gravel (1-10 cm poorly sorted) with trace of silt, loose, hard dry, slight odor, no staining.	918	
								917	
								916	
						10	Gray sandy gravel (1-10 cm poorly sorted) wet, slight odor, slight staining.	915	
								914	
								913	
10-15	T 3.5' N 2.5' S 1.0'	12'	1,130				Light brown clayey silt, soft, moist, no odor, no staining.	912	
								911	
						15	Brownish gray gravelly (1-10 cm poorly sorted), coarse grained sand, very loose, wet, strong odor, trace of NAPL.	910	
								909	
15-20	T 2.0' N 2.0' S 0.0'	17'	4,770					908	
								907	
								906	
						20	Brown gravelly (1-10 cm poorly sorted) coarse grained sand, very loose, faint odor no staining.	905	
								904	
20-25	T 3.0' N 2.5' S 0.5'	22'	1,186	648				903	
								902	
								901	

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			Date	Time	Depth (ft.)



Boring Log

Boring #: 5-B-9

Sheet 2 of 2

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Below Ground Surface (ft.)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					
25-30	T 3.0' N 3.0' S 0.0'	26'	564				Gray clayey silt, soft, wet, no odor, no staining.	900	
		29'	53			30	Brown coarse grained sand with trace of silt, very loose, wet, no odor, no staining.	899 898 897 896	

Remarks and Datum Used:	Surveyors BRH, Inc. NAD83/91 and NAVD88	Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
			Date	Time	Depth (ft.)
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Boring Log

Boring #: 5-B-11

Sheet 1 of 2

Project: BNSF Skykomish	Operator: Justin Aekaret	Location: Skykomish, WA
Project #: BN050-16423-522	Drill Rig Type: Mini-Sonic	Northing: 259221.4 Easting: 1510120.4
Client: BNSF	Method: Sonic Drilling	Ground Elevation: 925.02
Contractor: Holt Drilling/Boart Longyear	Casing ID:	Total Depth: 30'
Start Date & Time: 9/11/05 1100	Bit Type: Tungsten Carbide	Seal: Hole Plug
Finish Date & Time: 9/11/05 1230	Boring ID: 4 Inch	Logged By: Jim Schneider
Sample		
Depth Range (ft.)	Recovery	Depth
PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)	Graphic Log
Soil and Rock Description		
Classification Scheme: USGS/ASTM		
Elevation (ft-msl)		
Comments		

0-5	T 1.0' N 1.0' S 0.0'	0-1' 2-4'	648 78.6		Brown sandy silt, loose, soft, dry, no odor, no staining.	925 924 923 922 921 920	Hand dug to 2.5' to prevent contact with unknown utilities.
5-10	T 3.5' N 3.5' S 0.0'	5-10'	49		Dark brown gravelly (1-10 cm poorly sorted) silt, soft, slightly moist, no odor, no staining.	919 918 917 916 915 914 913 912 911 910 909 908 907 906 905 904 903 902 901 900	
10-15	T 3.0' N 3.0' S 0.0'	10-15'	85		Gray (reddish gray from 8-9') sandy gravel (1-10 cm poorly sorted), very loose, wet at 10', no odor, no staining.		
15-20	T 2.0' N 2.0' S 0.0'	15-20'	269				
20-25	T 2.5' N 2.5' S 0.0'	20-25'	57				

Remarks and Datum Used:		Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839	Surveyors BRH, Inc. NAD83/91 and NAVD88		Date	Time	Depth (ft.)



Boring Log

Boring #: 5-B-11

Sheet 2 of 2

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USGS/ASTM	Below Ground Surface (ft.)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					
25-30	T 2.0' N 2.0' S 0.0'	25-27' 0 27-30' 0				30	Gray clayey silt, soft, moist, no odor, no staining.	899 898 897 896	
							Brown clayey silt, soft, wet, no odor, no staining.		

Remarks and Datum Used:	Surveyors BRH, Inc. NAD83/91 and NAVD88	Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
			Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839					



Remarks and Datum Used: The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-8349 Fax: (206) 624-2839	Surveyors BRH, Inc. NAD83/91 and NAVD88	Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
			Date	Time	Depth (ft.)



Boring Log

Boring #: 5-B-12

Sheet 2 of 2

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Below Ground Surface (ft.)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					
25-30	T 3.0' N 3.0' S 0.0'	30-35'	940					900	
								899	
								898	
								897	
								896	
		30-33'	1,260	129.5		Brown gravelly (1-10 cm poorly sorted) coarse grained sand, loose, wet, slight odor, no staining.		895	
								894	
								893	
								892	
								891	
30-35	T 4.0' N 4.0' S 0.0'	34-35'	0			Brownish gray clayey silt, wet, soft, no odor, no staining.			

Remarks and Datum Used:	Surveyors BRH, Inc. NAD83/91 and NAVD88	Notes	Groundwater		
			Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839		T = Total Rec (ft)			
		N = Native Rec (ft)			
		S = Slough Rec (ft)			

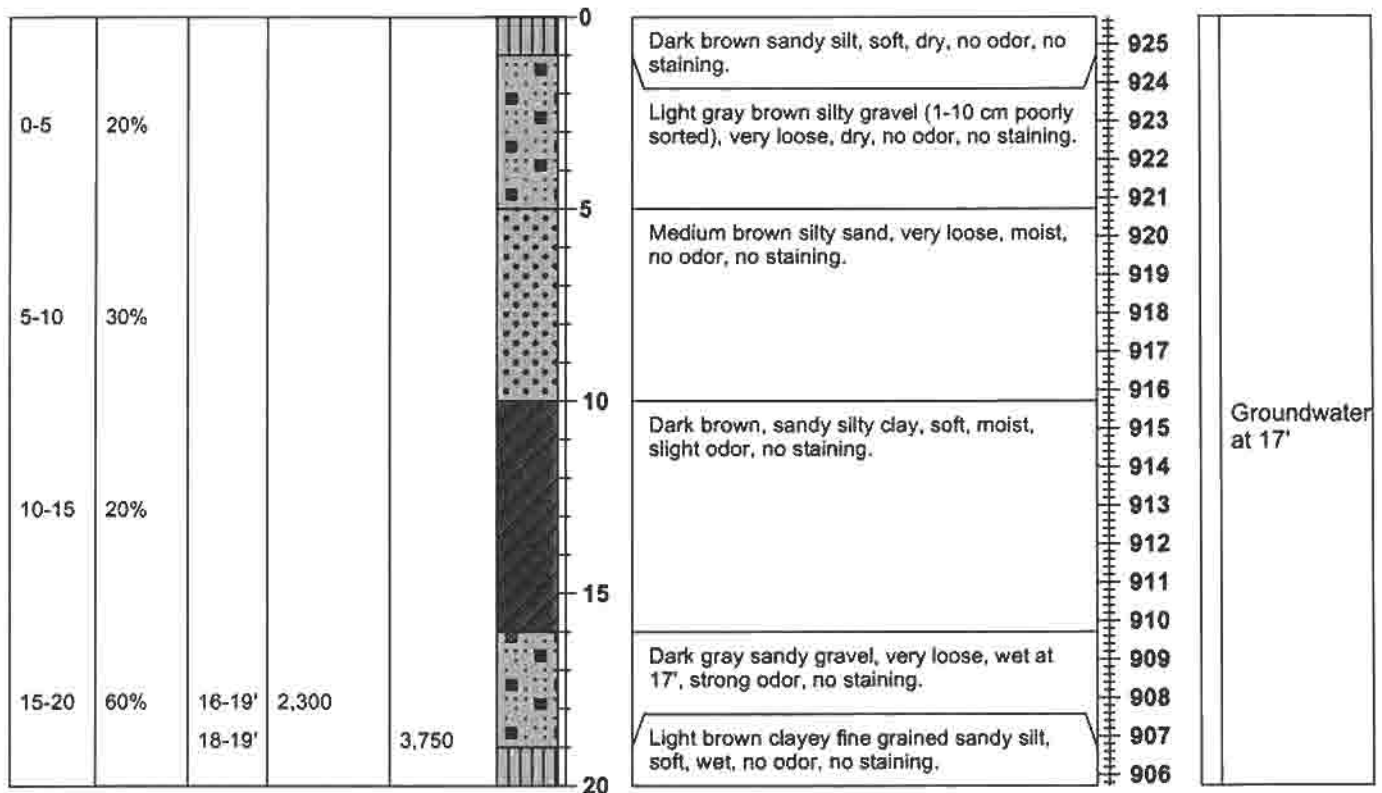


Boring Log

Boring #: LEV-1

Sheet 1 of 1

Project: BNSF Skykomish	Operator: Jim Robinson	Location: Skykomish, WA
Project #: BN050-16423-522	Drill Rig Type: Mini-Sonic	Northing: 259299.1 Easting: 1509905.0
Client: BNSF	Method: Sonic Drilling	Ground Elevation: 925.72
Contractor: Holt Drilling/Boart Longyear	Casing ID:	Total Depth: 20'
Start Date & Time: 9/9/05 1330	Bit Type: Tungsten Carbide	Seal: Hole Plug
Finish Date & Time: 9/9/05 1430	Boring ID: 4 Inch	Logged By: Jim Schneider
Sample		
Depth Range (ft.)	Recovery	Depth
PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)	Graphic Log
Soil and Rock Description		
Classification Scheme: USCS/ASTM		
Elevation (ft.-msl)		
Comments		



Remarks and Datum Used:	Notes	Groundwater		
		Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839	T = Total Rec (ft)			
	N = Native Rec (ft)			
	S = Slough Rec (ft)			



Boring Log

Boring #: LEV-2
Sheet 1 of 1

Project: BNSF Skykomish	Operator: Jim Robinson	Location: Skykomish, WA
Project #: BN050-16423-522	Drill Rig Type: Mini-Sonic	Northing: 259351.7 Easting: 1510003.5
Client: BNSF	Method: Sonic Drilling	Ground Elevation: 930.01
Contractor: Holt Drilling/Boart Longyear	Casing ID:	Total Depth: 20'
Start Date & Time: 9/9/05 1430	Bit Type: Tungsten Carbide	Seal: Hole Plug
Finish Date & Time: 9/9/05 1530	Boring ID: 4 inch	Logged By: Jim Schneider

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft-msl)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					

0-5	20%					0	Dark brown sandy silt, soft, dry, no odor, no staining.	930	Groundwater at 18'
						1		929	
						2		928	
						3		927	
						4		926	
						5		925	
						6		924	
						7		923	
						8		922	
						9		921	
						10		920	
						11		919	
						12		918	
						13		917	
						14		916	
						15		915	
						16		914	
						17		913	
						18		912	
						19		911	
						20			
15-20	40%	18'	9,400	3,200			Gray clayey silty sand, loose to medium dense, wet, slight odor, no staining.		
		19'	5,820				Gray clayey silt, soft, moist, no odor, no staining.		

Remarks and Datum Used:	Notes	Groundwater		
		Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839	T = Total Rec (ft)			
	N = Native Rec (ft)			
	S = Slough Rec (ft)			

Surveyors BRH, Inc. NAD83/91 and NAVD88



Boring Log

Boring #: LEV-3**Sheet 1 of 2**

Project: BNSF Skykomish					Operator: Jim Robinson		Location: Skykomish, WA			
Project #: BN050-16423-522					Drill Rig Type: Mini-Sonic		Northing: 259373.4 Easting: 1510056.6			
Client: BNSF					Method: Sonic Drilling		Ground Elevation: 930.35			
Contractor: Holt Drilling/Boart Longyear					Casing ID:		Total Depth: 35'			
Start Date & Time: 9/9/05 1630					Bit Type: Tungsten Carbide		Seal: Hole Plug			
Finish Date & Time: 9/9/05 1830					Boring ID: 4 inch		Logged By: Jim Schneider			
Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM		Elevation (ft-msl)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)						

0-5	20%					0	Dark brown sandy silt, soft, dry, no odor, no staining.	930	
								929	
							Light brown silty gravel (1-10 cm poorly sorted), very loose, dry, no odor, no staining	928	
								927	
								926	
						5		925	
								924	
5-10	20%							923	
								922	
								921	
						10	Gray clayey silty sand, medium dense, soft, wet, strong odor, NAPL present.	920	
								919	
								918	
10-15	10%							917	
								916	
						15	Gray clayey silt, soft, moist, slight odor, no staining.	915	
								914	
15-20	10%	15.5 - 19.5	10,310					913	Groundwater at 20'
								912	
								911	
						20	Gray gravelly (1-10 cm poorly sorted) coarse grained sand, medium dense, wet, slight odor, slight staining.	910	
								909	
								908	
								907	
20-25	T 3.5' N 1.0' S 2.5'	21-25'	110	855				906	
						25		905	

Remarks and Datum Used:		Notes	Groundwater		
Surveyors BRH, Inc. NAD83/91 and NAVD88			Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Killickit Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839		T = Total Rec (ft)			
		N = Native Rec (ft)			
		S = Slough Rec (ft)			



Boring Log

Boring #: LEV-3

Sheet 2 of 2

Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Below Ground Surface (ft.)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)					
25-30	T 3.5' N 2.0' S 1.5'							904 903 902 901 900 899 898 897 896	
30-35	T 4.0' N 3.0' S 1.0'						Brown coarse grained sand, very loose, wet, no odor, no staining. Brown clayey silt, soft, very moist, no odor, no staining.		

Remarks and Datum Used:		Notes	Groundwater		
Surveyors BRH, Inc. NAD83/91 and NAVD88			Date	Time	Depth (ft.)
The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1162 Phone: (206) 624-9349 Fax: (206) 624-2839		T = Total Rec (ft)			
		N = Native Rec (ft)			
		S = Slough Rec (ft)			

Project: BNSF Skykomish					Operator: Jim Robinson			Location: Skykomish, WA		
Project #: BN050-16423-522					Drill Rig Type: Mini-Sonic			Northing: 259400.9 Easting: 1510107.2		
Client: BNSF					Method: Sonic Drilling			Ground Elevation: 930.54		
Contractor: Holt Drilling/Boart Longyear					Casing ID:			Total Depth: 50'		
Start Date & Time: 9/12/05 7:45					Bit Type: Tungsten Carbide			Seal: Hole Plug		
Finish Date & Time: 9/12/05 10:00					Boring ID: 4 Inch			Logged By: Jim Schneider		
Sample					Graphic Log	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM		Elevation (ft-msl)	Comments
Depth Range (ft.)	Recovery	Depth	PetroFLAG (ppm)	NWTPH-Dx (mg/Kg)						

0-5	T 3.5' N 3.5' S 0.0'	15'	> 100,000	0	Brown sandy gravelly (1-2 cm) silt, soft, dry, no odor no staining	930
				1	Light brown, silty gravel (1-10 cm poorly sorted), very loose, dry, no odor, no staining.	929
				2		928
				3		927
				4		926
				5	Light brown silty gravel (1-10 cm poorly sorted), very loose, dry, no odor, no staining.	925
				6		924
				7		923
				8		922
				9		921
				10	Light brown silty gravel (1-10 cm poorly sorted), very loose, dry, no odor, no staining.	920
				11		919
				12		918
				13	Gray gravel (1-10 cm poorly sorted) with trace of silt, very loose, slightly moist, slight odor and no staining. Strong odor and hydrocarbon staining were present at 15'.	917
				14		916
				15		915
		16		914		
		17		913		
		18		912		
		19		911		
		20		910		
		21		909		
		22		908		
		23		907		
		24		906		
15-25	T 1.0' N 0.0' S 1.0'			25		

Groundwater at 25'

Remarks and Datum Used: The RETEC Group, Inc. 1011 SW Klickitat Way, Suite 207 Seattle, WA 98134-1152 Phone: (206) 624-9349 Fax: (206) 624-2839	Surveyors BRH, Inc. NAD83/91 and NAVD88	Notes T = Total Rec (ft) N = Native Rec (ft) S = Slough Rec (ft)	Groundwater		
			Date	Time	Depth (ft.)